

SECTION III—REMARKS

This amendment is submitted in response to the Office Action mailed August 15, 2005. Claims 20 and 28 are amended herein, and claims 20-37 remain pending in the application. Applicants respectfully request reconsideration of the application and allowance of all pending claims in view of the above amendments and the following remarks.

Rejections Under 35 U.S.C. § 112

The Examiner rejected claims 28-37 under 35 U.S.C. § 112, second paragraph, as indefinite for failing to particularly point out and claim the subject matter which the Applicants regards as the invention. According to the Examiner, claim 28 recites the limitation “the wires” in lines 4 and 6, but there is insufficient antecedent basis in the claim for this limitation.

Applicants have amended claim 28 to provide the required antecedent basis. Applicants respectfully submit that the amendment overcomes the Examiner’s rejection and that, as amended, independent claim 28 and its dependent claims 29-37 are in condition for allowance.

Rejections Under 35 U.S.C. § 102

The Examiner rejected claims 20, 21, 23 and 27 as anticipated under 35 U.S.C. § 102(b) by U.S. Patent No. 6,252,308 to Akram *et al.* (“Akram”) and U.S. Patent No. 5,436,203 to Lin (“Lin”). Applicants respectfully traverse the Examiner’s rejections. A claim is anticipated only if each and every element, as set forth in the claim, is found in a single prior-art reference. MPEP § 2131; *Verdegaal Bros. v. Union Oil of California*, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987). As explained below, neither Akram nor Lin can anticipate these claims because it does not disclose every element and limitation recited therein.

Claim 20, as amended, recites a process combination including providing a die connected to a substrate by a plurality of wires, encapsulating the wires and the entire die in an electrically

insulating material, and entirely encapsulating the die, the wires and the electrically insulating material in a thermally conductive material, “wherein the thermally conductive material is in contact with the entire part of the surface of the electrically insulating material that is not in contact with the substrate, the die or the wires.” Neither Akram nor Lin discloses a combination including the recited limitations. Akram discloses an encapsulated semiconductor assembly in which a barrier glob top 626 is applied to surround the periphery of the chip 602. Akram does not disclose, teach or suggest that the barrier glob top 626 should be applied anywhere other than the periphery of the chip 602. Akram therefore cannot disclose, teach or suggest a process combination including encapsulating the wires and the entire die in an electrically insulating material and entirely encapsulating the die, the wires and the electrically insulating material in a thermally conductive material “wherein the thermally conductive material is in contact with the entire part of the surface of the electrically insulating material that is not in contact with the substrate, the die or the wires.”

Lin discloses a semiconductor die 32 attached to a substrate 12 by wires 36 and surrounded by two dam structures 40 and 44. A first encapsulant 38 is dispensed into the dam structure 40 to encapsulate the die 32. A second encapsulant 42 is then dispensed into the larger dam structure 44 to encapsulate the die 32, the first encapsulant 38 and the dam structure 40. Because the dam structure 40 surrounds the first encapsulant 38, the second encapsulant 42 is not in contact with the entire part of the surface of first encapsulant 38 that is not in contact with the substrate, the die or the wires. Lin therefore does not disclose, teach or suggest a process combination including entirely encapsulating the die, the wires and the electrically insulating material in a thermally conductive material, “wherein the thermally conductive material is in contact with the entire part of the surface of the electrically insulating material that is not in

contact with the substrate, the die or the wires.” For the reasons above, Applicants submit that neither Akram nor Li can anticipate the claim. Applicants therefore respectfully request withdrawal of the rejection and allowance of the claim.

Regarding dependent claims 21, 23 and 27, if an independent claim is allowable, then any claim depending therefrom is also allowable. *See generally* MPEP § 2143.03; *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988). As discussed above, claim 20 is in condition for allowance. Applicants submit that dependent claims 21, 23 and 27 are therefore allowable by virtue of their dependence on an allowable independent claim, as well as by virtue of the features recited therein. Applicants therefore respectfully request withdrawal of the rejections and allowance of these claims.

Rejections Under 35 U.S.C. § 103

The Examiner rejected claims 22 and 24-26 under 35 U.S.C § 103(a) as obvious in view of, and therefore unpatentable over, various combinations of the following references: Akram, Lin, U.S. Patent No. 4,843,036 to Schmidt *et al.* (“Schmidt”) and U.S. Patent No. 6,617,683 to Lebonheur *et al.* (“Lebonheur”). Applicant respectfully traverses the Examiner’s rejections. If an independent claim is non-obvious under 35 U.S.C. § 103, then any claim depending therefrom is also non-obvious. MPEP § 2143.03; *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988). As discussed above, claim 20, as amended, is in condition for allowance. Applicants submit that claims 22 and 24-26 are therefore also allowable by virtue of their dependence on an allowable independent claim, as well as by virtue of the features recited therein. Applicants therefore respectfully request withdrawal of the rejections and allowance of these claims.

Conclusion

Given the above amendments and accompanying remarks, all claims pending in the application are in condition for allowance. If the undersigned attorney has overlooked a teaching in any of the cited references that is relevant to allowance of the claims, the Examiner is requested to specifically point out where such teaching may be found. Further, if there are any informalities or questions that can be addressed via telephone, the Examiner is encouraged to contact the undersigned attorney at (206) 292-8600.

Charge Deposit Account

Please charge our Deposit Account No. 02-2666 for any additional fee(s) that may be due in this matter, and please credit the same deposit account for any overpayment.

Respectfully submitted,

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